

Thomas M. Daley

Experience:

2007- Research Scientist, Earth Science Division, Lawrence Berkeley National Laboratory
1995-2006 Staff Research Associate, Earth Science Division, LBNL
1987-1995 Research Associate, Earth Sciences Division, LBNL
1982-1985 District Manager, Seismograph Service Corp.
1980-1982 Field Engineer, Birdwell Division, Seismograph Service Corp.

Education:

1987 M.S. Engineering, Engineering Geoscience, Univ. of California, Berkeley
1980 B.A. Geophysics, Geology and Geophysics, Univ. of California, Berkeley

Research Abstract:

My research work is focused on the acquisition and analysis of borehole seismic data from field scale experiments. Problems addressed have included continuous travel time monitoring to detect stress changes, monitoring of geologic sequestration of CO₂, characterization of fracture content and dominant fracture orientation in geothermal and oil fields, high resolution imaging of shallow surface materials, imaging fracture flow zones in contaminated aquifers, and integrated geophysical characterization of volcanic tuff flows for nuclear waste isolation at Yucca Mountain.

Professional Affiliations:

Society of Exploration Geophysicists; American Geophysical Union

Invited Presentations:

Daley, T., Seismic Monitoring of Carbon Sequestration, Electric Power Research Institute (EPRI) Workshop on Costs of CO₂ Transport and Storage, March 17-18, 2009.

Daley, T., Seismic Based MMV Programs: Frio II, Otway Basin, Permian EOR, WESTCARB/SECARB, IEA Greenhouse Gas R&D Monitoring Network, 4th Annual Meeting, Edmonton, Alberta, Nov. 2007.

Daley, T.M., Niu, F., Silver, P.G., Majer, E.L., Benson, S.M., 2007, Continuous Crosswell Seismic Measurement: Applications to Monitoring of Stress and CO₂, American Geophysical Union, Fall Meeting, Paper NG44A-04.

Daley, T.M., Silver, P.G., Niu, F., Majer, E.L., 2006, In-situ measurement of stress-induced travel time variation with continuous crosswell acquisition, Stress Effects on Velocity Workshop, Society of Exploration Geophysicists International Exposition and Seventy-Sixth Annual Meeting.

Daley, T.M., Silver, P.G., Niu, F., Majer, E.L., 2006, Precision measurement of in-situ travel time variation with continuous crosswell acquisition, Bay Area Geophysical Society, Oct. 24.

Awards/Patents

- 2007 Outstanding Performance Award, Lawrence Berkeley National Lab.
- 2006 Daley, T.M., R.D. Solbau, E.L. Majer, Piezotube borehole seismic source, provisional U.S. patent application 60/863,914.
- 2006 Outstanding Performance Award, Lawrence Berkeley National Lab.

Peer Reviewed Publications:

- Niu, F., Silver, P.G., **Daley, T.M.**, Cheng, X., Majer, E.L., 2008, Preseismic velocity changes observed from active source monitoring at the Parkfield SAFOD drill site, *Nature*, 454, 204-208, DOI:10.1038/nature07111.
- Daley, T.M.**, Myer, L.R., Peterson, J.E., Majer, E.L., Hoversten, G.M., 2008, Time-lapse crosswell seismic and VSP monitoring of injected CO₂ in a brine aquifer, *Environmental Geology*, 54, 1657-1665, DOI:10.1007/s00254-007-0943-z.
- Daley, T.M.**, R.D. Solbau, J.B. Ajo-Franklin, S.M. Benson, 2007, Continuous active-source monitoring of CO₂ injection in a brine aquifer, *Geophysics*, v72, n5, pA57-A61, DOI:10.1190/1.2754716.
- Silver, P.G., **Daley, T.M.**, Niu, F., Majer, E.L., 2007, Active source monitoring of crosswell seismic travel time for stress induced changes, *Bulletin of Seismological Society of America*, v97, n1B, p281-293.
- Ajo-Franklin, J.B., Minsley, B.J., **Daley, T.M.**, 2007, Applying Compactness Constraints To Seismic Traveltime Tomography, *Geophysics*, v72, n4, pR67-R75, DOI:10.1190/1.2742496.
- Majer, E. L., **T. M. Daley**, V. Korneev, D. Cox, J. E. Peterson, and J. H. Queen, 2006, Cost-effective imaging of CO₂ injection with borehole seismic methods, *The Leading Edge*, V25, n10, pp. 1290-1302.
- Hovorka, S.D., Benson. S.M., Doughty, C., Freifeld, B.M., Sakurai, S., **Daley, T.M.**, Kharaka, Y.K, Holtz, M.H., Tarutz, R.C., Nance, S.H., Myer, L.R. and Knauss K.G., 2006, Measuring permanence of CO₂ storage in saline formations: the Frio experiment, *Environmental Geosciences*, V. 13, no 2, pp 1-17, DOI:10.1306/eg.11210505011.
- Daley, T.M.**, Schoenberg, M.A., Rutqvist, J., Nihei, K.T., 2006, Fractured reservoirs: An analysis of coupled elasto-dynamic and permeability changes due to pore pressure variation, *Geophysics*, v71, n5, O33-O41.
- Nakagawa, S. and **Daley, T.M.**, 2006, Analytical modeling of wave generation by the borehole orbital vibrator source, *Geophysics* 71, F1-F11.
- Schoenberg, M.A., and **Daley, T.M.**, 2004, Criteria for quasi-shear wavefront triplication in a transversely isotropic material, *Journal of the Acoustical Society of America*, 115, p2626.
- Gritto, R., **T.M. Daley**, and L.R. Myer, 2004, Joint cross well and single well seismic studies of CO₂ injection in an oil reservoir, *Geophysical Prospecting*, 52, p323-339.
- Gritto, R., V.A. Korneev, **T.M. Daley**, M.A. Feighner, E.L. Majer, and J.E. Peterson, 2004, Surface-to-tunnel seismic tomography studies at Yucca Mountain, Nevada. *Journal of Geophysical Research*, v109, nB3, B03310, 10.1029/2002JB002036, LBNL-50470.
- Korneev, V.A., Goloshubin, G.M., **Daley, T.M.**, and Silin, D.B., 2004, Seismic low-frequency effects in monitoring of fluid saturated reservoirs, *Geophysics*, 69, 522-532.
- Daley, T.M.**, Majer, E.L., Peterson, J.E., 2004, Crosswell seismic imaging in a contaminated basalt aquifer, *Geophysics*, 69, 16-24.
- Gritto, R., Romero, A.E., **Daley, T.M.**, 2004, Results of a VSP experiment at the Resurgent Dome, Long Valley Caldera, California, *Geophysical Research Letters*, v31, L06603, doi:10.1029/2004GL019451, LBNL-52488.
- Hoversten, G.M., Gritto, R., Washbourne, J., **Daley, T.**, 2003, Pressure and fluid saturation prediction in a multicomponent reservoir using combined seismic and electromagnetic imaging, *Geophysics*, 68, 1580-1591.

Daley, T.M., Gritto, R., Majer, E.L., West, P., 2003, Tube-wave suppression in single-well acquisition, *Geophysics*, 68, p863-869.

Gritto, R.; **Daley, T. M.**; Majer, E. L., 2003: Estimating Subsurface Topography from Surface-to-Borehole Seismic Studies at the Rye Patch Geothermal Reservoir, Nevada, USA, *Geothermics*, Vol. 32, No.3, pp. 275-295 , LBNL-50490.

Daley, T.M. and Cox, D., 2001, Orbital vibrator seismic source for simultaneous P- and S-wave crosswell acquisition, *Geophysics*, 66, 1471-1480.

D'Onfro, P.S., Rizer, W.D., Queen, J.H., Majer, E.L., Peterson, J.E., **Daley, T.M.**, Vasco, D.W., Datta-Gupta, A., Long, J.C.S., An integrated approach for characterizing fractured reservoirs. In: Jones, G., Fisher, Q.J. and Knipe, R.J. (eds) *Faulting, Fault Sealing and Fluid Flow in Hydrocarbon Reservoirs*. Geological Society, London, Special Publications, 147, 193-208.

Majer, E.L., Peterson, J.E., **Daley, T.M.**, Kaelin, B., Queen, J., D'Onfro, P., and Rizer, W., 1997, Fracture Detection using Crosswell and Single Well Surveys, *Geophysics*, v62, n2.

Majer, E.L., Datta-Gupta, A., Peterson, J.E., Vasco, D.W., Meyer, L.R., **Daley, T.M.**, Kaelin, B., Queen, J., D'Onfro, P.S., Rizer, W.D., Cox, D., and Stinton, J., 1996, Utilizing crosswell, single well and pressure transient tests for characterizing fractured gas reservoirs, *The Leading Edge*, v15, n8.

Daley, T.M., and T. V. McEvelly, Shear-Wave Anisotropy in the Parkfield Varian Well, 1990, *Bulletin of the Seismological Society of America*, 80, p857, 1990.

Daley, T.M., T.V. McEvelly and E.L. Majer, Multiply Polarized Shear-Wave VSP's from the Cajon Pass Drillhole, 1988, *Geophysical Research Letters*, v15, p1001, 1988.

Daley, T.M., T. V. McEvelly and E.L. Majer, 1988, Analysis of P and S wave VSP Data from the Salton Sea Scientific Drilling Project, *Journal of Geophysical Research*, v93, p13025.

LBNL Scientific Reports:

Daley, T.M., Freifeld, B.M., Ajo-Franklin, J.B., Doughty, C., Benson, S.M., Frio-II Brine Pilot: Report on GEOSEQ Activities, 2007, Lawrence Berkeley National Laboratory Report, LBNL-63613.

Daley, T.M. and Majer E.L., 2007, Borehole seismic monitoring of seismic stimulation at Occidental Permian Ltd's South Wason Clear Fork Unit, LBNL-62613.

Daley, T.M., Niu, F., Silver, P.G., and Majer, E.L., Acquisition of crosswell seismic monitoring data, Special Issue on Active Source Monitoring, LBNL-62400.

Benson, Sally M., Myer, Larry R., Oldenburg, Curtis M., Doughty, Christine A., Pruess, Karsten, Lewicki, Jennifer, Hoversten, Mike, Gasperikova, Erika; **Daley, Thomas**; Majer, Ernie; Lippmann, Marcelo Tsang, Chin-Fu; Knauss, Kevin; Johnson, James; Foxall, William Ramirez, Abe; Newmark, Robin; Cole, Dave; Phelps, Tommy J.; Parker, J. Palumbo, A.; Horita, J.; Fisher, S.; Moline, Gerry; Orr, Lynn Kovscek, Tony; Jessen, K.; Wang, Y.; Zhu, J.; Cakici, M.; Hovorka, Susan; Holtz, Mark; Sakurai, Shinichi; Gunter, Bill; Law, David van der Meer, Bert., GEO-SEQ Best Practices Manual. Geologic Carbon Dioxide Sequestration: Site Evaluation to Implementation, 2004, LBNL-56623.

Majer, Ernest; Queen, John; **Daley, Tom**; Fortuna, Mark; Cox, Dale; D'Onfro, Peter; Goetz, Rusty; Coates, Richard; Nihei, Kurt; Nakagawa, Seiji; Myer, Larry; Murphy, Jim; Emmons, Charles; Lynn, Heloise; Lorenz, John; LaClair, David; Imhoff, Mathias; Harris, Jerry; Wu, Chunling; Urban, Jame; Maultzsch, Sonja; Liu, Enru; Chapman, Mark; Li, Xiang-Yang; A Handbook for the Application of Seismic Methods for Quantifying Naturally Fractured Gas Reservoirs in the San Juan Basin, New Mexico, 2004, LBNL-56409.

Benson, S.M., L.R. Myer, J.G. Blencoe, M.D. Cakici, D. Cole, W. Daily, **T. Daley**, C.A. Doughty, S. Fisher, W. Foxall, W. Gunter, M. Holtz, J. Horita, G.M. Hoversten, S. Hovorka, K. Jessen, J.W. Johnson, B.M. Kennedy, K.G. Knauss, A. Kovscek, D. Law, M.J. Lippmann, E.L. Majer, B. van der Meer, G. Moline, R.L. Newmark, C.M. Oldenburg, J. Orr, Franklin M., A.V. Palumbo, J.C. Parker, T.J. Phelps, K. Pruess, A. Ramirez, S. Sakurai, C.-F. Tsang, Y. Wang, and J. Zhu, The GEO-SEQ Project Results. LBNL Report, Berkeley, CA, 2004. LBNL/PUB-901. 2004.

Daley, T.M., R. Gritto, and E.L. Majer, Single-well seismic imaging of a gas-filled hydrofracture, Berkeley, California, 2003. Berkeley Lab Report LBNL-53601.

Gritto, R., A.E. Romero, and **T.M. Daley**, VSP analysis at Long Valley Caldera, California. Geophysical Research Letters (submitted), 2003; Berkeley Lab Report LBNL-52488, 2003.

Daley, T.M., Leonard, M., Majer, E.L., Queen, J.H., Cox, V.D., 2003 Measurement of fracture induced anisotropy in shear-wave attenuation with VSP data, LBNL-39464, Berkeley, CA.

Gritto, R., **Daley, T. M.**, Myer, L. R., Joint Cross Well and Single Well Studies at Lost Hills, California, Lawrence Berkeley National Laboratory Report, LBNL-50651, Berkeley, CA, 2002.

Daley, T.M. and Gritto, R., 2001, Field test of INEEL tube-wave suppressor and LBNL borehole seismic system at Richmond Field Station, February 2001, LBNL-49015, Berkeley, Ca.

Gritto, R, **Daley, T.M.**, and Majer, E.L., Seismic mapping of the subsurface structure at the Ryepatch geothermal reservoir, Lawrence Berkeley National Laboratory Report, LBNL-47032, Berkeley Ca., October, 2000.

Daley, T.M., Majer, E.L., Peterson, J.E., Crosswell seismic imaging in a contaminated basalt aquifer, Lawrence Berkeley National Laboratory Report LBNL-45533, Berkeley CA, April, 2000.

Daley, T.M., Majer, E.L., Peterson, J.E., Crosswell seismic imaging in a contaminated basalt aquifer, Lawrence Berkeley National Laboratory Report LBNL-45533, Berkeley CA, April, 2000.

Daley, T.M., Feighner, M.A., Majer, E.L., Monitoring underground gas storage in a fractured reservoir using time lapse VSP, Lawrence Berkeley National Laboratory Report LBNL-44876, Berkeley, CA, March 2000.

Daley, T.M. Calibration test of DAS-2 Borehole ADC, Lawrence Berkeley National Laboratory Report LBNL-45268, Berkeley, CA, March 2000.

Daley, T.M., Majer, E.L., Gritto, R., Single well seismic imaging – Status Report, Lawrence Berkeley National Laboratory Report LBNL-45342, Berkeley, Ca, March 2000.

Feighner, M.A., Gritto, R., **Daley, T.M.**, Keers, H., Majer, E.L., Three-dimensional seismic imaging of the Ryepatch geothermal Reservoir, Lawrence Berkeley National Laboratory Report, LBNL-44119, Berkeley CA, November, 1999.

Daley, T.M., Majer, E.L., Peterson, J.E. and Roberts, P., Field Monitoring of Seismic Stimulation Sites, Lawrence Berkeley National Laboratory Report LBNL-44536, Berkeley CA, Nov. 1, 1999.

Daley, T.M., Gritto, Korneev, V.A., Feighner, M.A., Majer, E.L., Peterson, J.E., Surface-to-tunnel seismic tomography on kilometer scale at Yucca Mountain, Lawrence Berkeley National Laboratory Report LBNL-44537, Berkeley CA, November 1999.

Daley, T.M., and Cox, D., Orbital vibrator seismic source for simultaneous P- and S-wave crosswell acquisition, Lawrence Berkeley National Laboratory Report LBNL-43070, Berkeley, CA, March 31, 1999.

Gritto, R., A. E. Romero, and **T. M. Daley**, VSP analysis at Long Valley Caldera, Eastern California, LBNL-39108, Lawrence Berkeley National Laboratory, Berkeley, Calif., 1999.

Daley, T.M., Single Well Seismic Imaging Tests: Nov 1997 at Bayou Choctaw Site, LBNL Report #42672, Lawrence Berkeley National Laboratory, February 1998.

Daley, T.M., Single Well Seismic Imaging in a Deep Borehole using a piezoelectric Orbital Vibrator, LBNL Report #42673, Lawrence Berkeley National Laboratory, June 1997.

Feighner, M., **Daley, T.M.**, Majer, E.L. Results of Vertical Seismic Profiling at Well 46-28, Rye Patch Geothermal Field, Pershing County, Nevada, LBNL Report #41800, Lawrence Berkeley National Laboratory, February 25, 1998.

Daley, T.M., Peterson, J.E., and Majer, E.L., Crosswell Seismic Tomography in Basalt Flows at the INEEL TAN Site, in Earth Science Division Annual Report 1997, Lawrence Berkeley National Laboratory LBNL-42452.

Feighner, M.A., **Daley, T.M.**, Gritto, R., and Majer, E.L., Report on CDP Reflection Image and Subsurface Structure Along Lines B and C: UZ-16 VSP, Lawrence Berkeley National Laboratory, YMP Milestone report SP3B2BM4, September 30, 1997.

Majer, E.L, Feighner, M.A., and **Daley, T.M.**, Completion of Regional Seismic Reflection Profile Reprocessing Part 2: Modeling of Seismic Reflection Profiles from Yucca Mountain, Lawrence Berkeley National Laboratory, LBNL-40174, April 1997.

Majer, E.L., Feighner, M.A., Johnson, L., **Daley, T.**, Karageorgi, E., Lee, K.H., Williams, K., McEvelly, T., Synthesis of Borehole and Surface Geophysical Studies at Yucca Mountain, Nevada and Vicinity, Volume 1: Surface Geophysics, Yucca Mountain Project Milestone Report OB05M, Lawrence Berkeley National Laboratory, August 30, 1996.

Majer, E.L., Feighner, M., Johnson, L., **Daley, T.M.**, Williams, K., Karageorgi, E., McEvelly, T.V., Letter Report on Surface Geophysics Synthesis: Data Interpretation, Lawrence Berkeley National Laboratory, Yucca Mountain Project Milestone Report, OB05H, June 1996.

Majer, E.L., Peterson, J.E., **Daley, T.M.**, Kaelin, B., Queen, J., P.D'Onfro, and Rizer, W., Fracture Detection using Crosswell and Single Well Surveys, Lawrence Berkeley National Laboratory report LBL-38259, 1996.

Daley, T.M., Karageorgi, E., McEvelly, T.V., LBNL High Resolution Reflection Profiles: Site Characterization Program, Yucca Mountain Project Status Report, Lawrence Berkeley National Laboratory, Jan 1996.

Majer, E.L., Feighner, M., Johnson, L., **Daley, T.M.**, Williams, K., Karageorgi, E., McEvelly, T.V., Letter Report on Surface Geophysics Synthesis: Data Processing, Lawrence Berkeley National Laboratory, Yucca Mountain Project Milestone Report, OBO5F, OBO5G, February 1996.

Feighner, M., L. Johnson, K. Lee, **T.M. Daley**, E. Karageorgi, P. Parker, T. Smith, K. Williams, A. Romero, and T.V. McEvelly, Results and Interpretation of Multiple Geophysical Surveys at Yucca Mountain, Nevada, January 1996, Lawrence Berkeley National Laboratory, LBL-38200.

Majer, E.L., Feighner, M., Johnson, L., Lee, K., **Daley, T.**, Karageorgi, E., Parker, P., Smith, T., Williams, K., Romero, A., McEvelly, T.V., Results of Geophysical Surveys along the North-South and South ESF Alignment, Summary Report: Interpretation of Multiple Geophysical Surveys, Lawrence Berkeley National Laboratory, Yucca Mountain Project Milestone Reports OBB02 and OBB03, Sep 1995.

Daley, T.M., LBL High Frequency Borehole Seismic System: Training Manual, Lawrence Berkeley National Laboratory, May 1995.

Daley, T.M., McEvelly, T.V., Karageorgi, E., Haught, R., High Resolution Seismic Profiling at LBNL: Status Report, Lawrence Berkeley National Lab, Nov 1995.

Majer, E., Peterson, J., Hubbard, S., **Daley, T.**, Vasco, D., Final Report: Evaluation of the Applicability of High Resolution Crosshole Seismic Imaging Beneath the H-Tank Area for Geomechanical Properties, Lawrence Berkeley National Lab., Aug 1995.

Daley, T.M. and Haught, R., System Response Tests of LBL's High Frequency Piezoelectric Cross-Well Seismic Equipment in San Francisco Bay, Lawrence Berkeley National Lab., June 1994.

Daley, T.M., Majer, E.L., Karageorgi, E., Analysis Paper: Combined Analysis of Surface Reflection Imaging and Vertical Seismic Profiling, Interim Report for Yucca Mountain Project, Lawrence Berkeley National Lab., Milestone 3GGF241M, 1994.

Daley, T.M., High Resolution VSP Surveys in Shallow Ground Water Monitoring Wells at Lawrence Berkeley Laboratory, Lawrence Berkeley Laboratory, May 1994.

Daley, T.M., E.L. Majer, and J.H. Queen, Application of 4-component shear-wave VSP rotation for determination of fracture-induced anisotropy, Earth Science Division 1992 Annual Report, Lawrence Berkeley Lab., Sep 1993.

Daley, T.M., Majer E.L., Analysis Paper: Data Reduction NRG-6/WT-2 VSP, Interim Report for Yucca Mountain Project, Lawrence Berkeley Laboratory, 1993.

Daley, T.M., J.E. Peterson Jr, and T.V. McEvelly, A Search for Evidence of Nonlinear Elasticity in the Earth, Lawrence Berkeley Laboratory, Berkeley Ca., December 1992, LBL-33313.

Leonard, M.A., **T.M. Daley**, and L.R. Johnson, VSP site characterization at NTS: OSSY '91, Summary Report, 1992, Lawrence Berkeley Laboratory, #LBL-32521.

Daley, T.M., Majer, E.L., Seismic Imaging of the SWCC, Lawrence Berkeley Laboratory, January 1992, LBL-31982.

Okaya, D., Karageorgi, E., **Daley, T.M.**, IRIS-SEIS Users Manual and Installation Guide, Version 1.3.0, Lawrence Berkeley Lab., Jan 1991, LBL-29817.

Daley, T.M., T.V. McEvelly, and A. Michelini, VSP Site Characterization at Nevada Test Site - Summary Report, 1990, Lawrence Berkeley Laboratory, Berkeley Ca., October 1990, LBL-29778.

Conference Presentations with Papers or Abstracts:

Niu, F., P. Silver, **T. Daley**, R. Nadeau, T. Taira, X. Cheng, E. Majer, 2008, Seismic Imaging of Stress Transient, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract S51E-02

Freifeld, B., **Daley, T.**, Hovorka, S. Henninges, J., Underschultz, J., Sharma, S., 2008, Recent advances in well-based monitoring of CO₂ sequestration, 9th International Conference on Greenhouse Gas Control Technologies 16 - 20 November, Washington DC.

Daley, T. M., D. Sherlock, A. Dzunic, S. Sharma, 2008, Seismic Monitoring at the Otway Project with the Naylor-1 Borehole Sensors, CO₂CRC Research Symposium, Queenstown, New Zealand, December 1-4.

Urosevic M., A. Kopic, D. Sherlock, **T. Daley**, B. Freifeld, S. Sharma, K. Dodds, 2008, Application of geophysical monitoring within the Otway Project SE Australia, Society of Exploration Geophysicists Annual Meeting, November 10-14, Paper: SS 6.6.

Daley, T.M., J. B. Ajo-Franklin, and C. Doughty, 2008, Integration of crosswell CASSM (continuous active source seismic monitoring) and flow modeling for imaging of a CO₂ plume in a brine aquifer, Society of Exploration Geophysicists Annual Meeting, November 10-14, Paper SS 6.7.

Daley, T.M., Don Sherlock, Barry Freifeld, Jonathan Ajo-Franklin, Sandeep Sharma, 2008, Monitoring of CO₂ sequestration in a depleted gas reservoir: The Otway Project, Society of Exploration Geophysicists Unconventional Resources Research Workshop, Vancouver, BC.

R. Zhou, L. Huang, J. Rutledge; **T. M. Daley** and E. L. Majer, 2008, Using the coda-wave interferometry method and timelapse VSP data to estimate velocity changes from geological carbon sequestration in a brine aquifer Society of Exploration Geophysicists Annual Meeting, November 10-14, Paper TL 2.5.

Daley, T.M., Sherlock, D., Freifeld, B., Sharma, S., 2008, Otway Project: Multi-Purpose Borehole Seismic Sensors; Design, Installation and Preinjection Monitoring Data, 7th annual conference on carbon capture and sequestration, May 2008.

Ajo-Franklin, J., Doughty, C., **Daley, T.M.**, Combining analysis of continuous active source seismic monitoring and multiphase flow modeling for CO₂ sequestration: The Frio II brine pilot, 7th annual conference on carbon capture and sequestration, May 2008.

Zhou, R., Huang, L, Rutledge, J., **Daley T.M.** and Majer, E.L., Velocity Change Estimation Using Time-Lapse VSP Data for Monitoring CO₂ Injection in a Brine Aquifer, 7th annual conference on carbon capture and sequestration, May 2008.

Daley, T.M., 2007, Continuous Crosswell Seismic Measurement: Applications to Monitoring of Stress and CO₂, American Geophysical Union, Fall Meeting, Paper NG44A-04.

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Ajo-Franklin, J.B., Doughty, C.A., **Daley, T.M.**, 2007, Integration of Continuous Active-Source Seismic Monitoring and Flow Modeling for Co₂ Sequestration: The Frio II Brine Pilot, American Geophysical Union, Fall Meeting, Paper H11J-02.

Daley, T.M., 2007, Seismic Based Monitoring and Verification Programs at Frio-II/WestCarb/SeaCarb/Otway, IEA Greenhouse Gas R&D Program, Monitoring Network 4th Annual Meeting, Nov 7-9, 2007.

Daley, T.M., R.D. Solbau, J.B. Ajo-Franklin, S.M. Benson, 2007, Continuous crosswell monitoring of CO₂ injection in a brine aquifer, Society of Exploration Geophysicists International Exposition and Seventy-Seventh Annual Meeting, Sep. 17-21, 2007.

Daley, T.M., R.D. Solbau, J.B. Ajo-Franklin, S.M. Benson, 2007, Continuous Crosswell Seismic During CO₂ Injection: A New Monitoring Technology Deployed at the Frio-II Experiment, Sixth Annual Conference on Carbon Capture and Sequestration, paper #143, May7-10, 2007.

Cheng, X., Niu, F., Silver, P.G., **Daley, T.M.**, Majer, E.L., 2006, Continuous in-situ measurement of stress induced travel time variation at Parkfield, American Geophysical Union, Annual Meeting, EOS Trans. AGU, Fall Meet. Suppl., paper NG42A-04.

Daley, T.M., Silver, P.G., Niu, F., Majer, E.L., 2006, Continuous monitoring of crosswell seismic travel time, Society of Exploration Geophysicists International Exposition and Seventy-Sixth Annual Meeting, Oct. 1-6, 2006.

Majer, E., S. Pride, W. Lo, T. Daley, G. Sposito, S. Nakagawa and P. Roberts, Modeling and Field Results from Seismic Stimulation, 17th International Symposium on Nonlinear Acoustics, AIP Conference Proceedings - May 30, 2006, v838, p167-173.

Daley, T.M., Myer, L.R., Hoversten, G.M., Benson, S.M., Successful Borehole Seismic Imaging of Injected CO₂ in a Deep Saline Formation, Fifth Annual Conference on Carbon Capture and Sequestration, May 8-11 2006, Alexandria, Va.

Trautz, R., L. Myer, S. Benson, C. Oldenburg, **T. Daley**, and J. Seeman, A combined saline formation and gas reservoir CO₂ injection pilot in Northern California. 8th International Green House Gas Control Technology. Trondheim, Norway, Research Council of Norway. LBNL-60169. 2006.

Daley, T., L. Myer, G.M. Hoversten, J.E. Peterson Jr., and V. Korneev, Borehole Seismic Monitoring of Injected CO₂ at the Frio Site. 8th International Conference on Greenhouse Gas Control Technologies Congress. Trondheim, Norway. LBNL-60160. 2006.

Daley, T.M. and Korneev, V.A., 2006, In-Situ Borehole Seismic Monitoring of Injected CO₂ at the FrioSite, Proceedings, International CO₂SC Symposium, Berkeley, Ca, March 20-22.

Daley, T.M., Myer, L., Hoversten, G.M., Peterson, J.E., 2005, Borehole Seismic Monitoring of Injected CO₂ at the Frio Site, American Geophysical Union, Annual Meeting, EOS Trans. AGU, 86(52), Fall Meet. Suppl.

Silver, P.G., Niu, F., **Daley, T.M.**, Majer, E.L., 2005, Developing a Methodology for Observing Stress-Induced Temporal Variations in Travel Time: A Progress Report, American Geophysical Union, Annual Meeting, EOS Trans. AGU, 86(52), Fall Meet. Suppl.

Daley, T.M., L.R. Myer, E.L. Majer, J.E. Peterson, 2005, Acquisition of time-lapse, 6-component, P- and S-wave, crosswell seismic survey with orbital vibrator and of time-lapse VSP for CO₂ injection monitoring, 75th annual international meeting of the Society of Exploration Geophysicists, Nov. 2005, Houston Tx.

Daley, T.M., L.R. Myer, E.L. Majer, Time Lapse Monitoring of CO₂ Injection with Vertical Seismic Profiles (VSP) at the Frio Project. 4th Annual Conference on Carbon Sequestration, May 2005, Alexandria Va.

- Hoversten, G.M., Chen, J., **Daley, T.**, Peterson, J., Dodds, K., Zhang, P., Wilt, M., Little, J., Sakurai, S., Myer, L., Joint inversion of crosswell seismic and EM data for CO₂ saturation, 4th Annual Conference on Carbon Sequestration, May 2005, Alexandria Va.
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